FACT SHEET FOR
NPDES and Reclaimed Water PERMIT WA 0021148A
for the City of Medical Lake Reclaimed Water Facility

SUMMARY

This fact sheet addendum accompanies the draft permit, which is to be reauthorized to City of Medical Lake to the discharge of wastewater to a Tributary of Deep Creek and Reclaimed Water to protect West Medical Lake and for reuse in the city reclaimed water system. The previous fact sheet is also part of this administrative record and explains the basis for the discharge limitations and conditions of the reauthorized permit.

The existing permit requirements, including discharge limitations and monitoring, do not need to be changed to protect the receiving water quality. The previous fact sheet addressed conditions and issues at the facility at the time when the previous permit was issued, and statements made reflected the status in 2000. Since the issuance of the current permit, the Department has not received any information which indicates that environmental impacts from the discharge that were not evaluated at the time of the last permit issuance is persuasive enough to undertake a complete renewal of the permit. The reauthorized permit is virtually identical to the previous permit issued on April 19, 2000.

The discharge limits and conditions in effect at the time of expiration of the previous permit are carried over unchanged to this reauthorized permit. Assessment of compliance and inspections of the facility during the previous permit term indicate that the facility should not be placed on a high priority for permit renewal. The Department assigns a high priority for permit renewals in situations where water quality would materially benefit from a more stringent permit during the next five-year cycle.

The permit reauthorization process, in concert with the routine renewal of high priority permits, allows the Department to reissue permits in a timely manner and minimize the number of active permits that have passed expiration dates. A system of ranking the relative significance of the environmental benefit to be gained by renewing a permit rather than reauthorizing a permit is followed during the Department's annual permit planning process. Each permit that is due for reissuance is assessed and compared with other permits that are also due for reissuance. The public is notified and input is sought after the initial draft ranking has tentatively established which permits are likely to be completely renewed and which are likely to be reauthorized. All relevant comments and suggestions are considered before a final decision is made regarding the type of reissuance for each permit.

The recently updated permit shell for water reclamation and reuse was incorporated in this permit reauthorization. Condition S2.G Instrument Calibration of the new permit shell includes requirements for all monitoring devices, i.e. verification and calibration of the turbidimeter. The only other changes to the previous permit are the submittal date requirements and the new EPA whole effluent toxicity testing requirements prior to the next permit application process. Submittal requirements from the previous permit that were completed and submitted and do not require additional or continued assessment were removed from this permit. The submittal dates for the other standard compliance and submittal requirements that have been carried over from the past permit into this reauthorized permit have been adjusted to the proposed permit schedule. The Department considered these submittals necessary in the previous permit and no information has come forward to cause a reconsideration of the submittal requirement.

TABLE OF CONTENTS

INTRODUCTION

This fact sheet is a companion document to the draft NPDES Permit No. **WA 0021148A**

The Department of Ecology (the Department) is proposing to issue this permit, which will allow discharge of reclaimed water to waters of the State of Washington. This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the reclaimed water, and the regulatory and technical bases for those decisions.

Washington State law (RCW 90.48.080, 90.48.162 and 90.46) requires that a permit be issued before discharge of wastewater or reclaimed water to waters of the state is allowed. Regulations adopted by the State include procedures for issuing permits (Chapter 173-216 WAC), technical criteria for discharges from municipal wastewater treatment facilities (Chapter 173-221 WAC) and water quality criteria for ground waters (Chapter 173-200 WAC); and standards for reclaimed waters as required by the statute for Reclaimed Water, Ch. 90.46 RCW. They also establish the basis for effluent limitations and other requirements which are to be included in the permit.

This fact sheet and draft permit are available for review by interested persons as described in Appendix A--Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Washington State Department of Health - Office of Drinking Water, Eastern Regional Office, and by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D--Response to Comments

GENERAL INFORMATION	
Applicant	City of Medical Lake
Facility Name and Address	**Water Reclamation Facility** **East 207 Ellen Avenue,** **Medical Lake, WA 99022**
Type of Treatment System:	Extended Aeration Activated Sludge with tertiary treatment
Discharge Location	Outfall #1 - Latitude: 47o 35' 10" N Longitude: 117o 41' 05" W; Use Area #1 - Latitude: 47o 34' 00" N Longitude: 117o 42' 09" W " W. Use Area #2 – City Reclaimed Water System
Contact at Facility	Name: Steve Cooper Telephone #: (509)299-6860
Responsible Official	Name: Doug Ross Title: Public Works Director Address: S 124 Lefevre, PO Box 369, Medical Lake, WA,

GENERAL INFORMATION	
	99022-0369 Telephone #: (509) 754-4601 FAX # (509)299-7712

BACKGROUND INFORMATION

DESCRIPTION OF THE COLLECTION AND TREATMENT SYSTEM

HISTORY

The city has had a wastewater treatment facility since 1963 which has been upgraded several times since then. The current project replaced the existing wastewater treatment facultative lagoon plant with a water reclamation facility. The reclaimed water will discharge to West Medical Lake in the vicinity of the Western State Hospital facility and the city reclaimed water system. The city is also required to discharge water quality class A water to a tributary to Deep Creek. The new facility came on line in March 2001.

TREATMENT PROCESSES

The new treatment works includes the construction and installation of influent lift station; headworks structure with grit channel, parshall flume and mechanical screen; oxidation ditch, clarifier and return sludge system, an operations/digester/filtration building, chemical coagulant feed system, filtration system, ultraviolet light disinfection system, lift station and outfall pipe to West Medical lake, city reclaimed water system, and Deep Creek tributary, demolition; necessary appurtenances and other related, miscellaneous items.

DISTRIBUTION SYSTEM

The reclaimed water will augment the water levels in West Medical Lake and city reclaimed water system during the summer irrigation season via a discharge and outfall pipe.

RESIDUAL SOLIDS

The treatment facilities remove solids during the treatment of the wastewater at the headworks (grit and screenings), and at the primary and secondary clarifiers, in addition to incidental solids (rags, scum, and other debris) removed as part of the routine maintenance of the equipment. Grit, rags, scum and screenings are drained and disposed of as solid waste at the local landfill. Solids removed from the secondary clarifier are treated in aerobic digesters and drying beds before being land applied under a permit from the Spokane County Health District.

PERMIT STATUS

The previous permit for this facility was issued on July 1, 1977 with an expiration date of June 30, 1982. The Department received a permit renewal application prior to expiration and, due to an administrative backlog, was extended to the present date.

An application for permit renewal was submitted to the Department on October 20, 2004 and accepted by the Department on October 21, 2004.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an compliance inspection on July 15, 2004. During the history of the previous permit, the Permittee has remained in compliance based on Discharge Monitoring Reports (DMRs) and other reports submitted to the Department and inspections conducted by the

Department. The reauthorized permit is virtually identical to the previous permit issued on April 19, 2000.

WASTEWATER CHARACTERIZATION
The proposed wastewater discharge prior to West Medical Lake and city reclaimed water system is characterized by the following parameters in the approved Facility Plan dated September 1996 in Table 6-8.

Table 1: Wastewater Characterization

Parameter	Concentration
BOD5, monthly average	< 10 mg/L
TSS, monthly average	< 15 mg/L
Total Nitrogen, Daily	< 10 mg/L
Turbidity, monthly average	< 2 NTU
Turbidity, continuous	< 5 NTU
Total Coliform, average	< 2.2 CPU/100 mL
Total Coliform, single sample	< 23 CPU/100 mL

SEPA COMPLIANCE
SEPA and NEPA (through the State Environmental Review) were complied with as part of the planning (Facility Plan) document approval process and design and construction funding process.

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be either technology- or water quality-based. Wastewater must be treated using all known, available, and reasonable treatment (AKART) and not pollute the waters of the State. The minimum requirements to demonstrate compliance with the AKART standards are derived from the *Water Reclamation and Reuse Standards*, and Chapter 173-200 WAC.

The permit also includes limitations on the quantity and quality of the wastewater that have been determined to protect the quality of West Medical Lake and the city reclaimed water system. The approved engineering report includes specific design criteria for this facility. Water quality-based limitations are based upon compliance with the Water Reclamation and Reuse Standards.

The more stringent of the water quality-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS
All waste discharge permits issued by the Department must specify conditions requiring available and reasonable methods of prevention, control, and treatment of discharges to waters of the state (WAC 173-216-110).

Class A Reclaimed Water Limits

The state of Washington passed legislation in 1992 which provided for the development of a process to encourage and implement water reclamation and reuse. In response to this legislation, RCW 90.46, and subsequent amendments, the Departments of Health and Ecology developed the Water Reclamation and Reuse Standards, 1997. These standards outline requirements for the level of treatment technology as well as technology-based water quality limits necessary to **protect public health** in the reuse of reclaimed water. These standards include requirements for four classes of reclaimed water, Classes A, B, C and D. Class A is the highest quality of reclaimed water, and therefore, provides the broadest range of reuse opportunities. Conversely, Class A reclaimed water requires the most stringent treatment and water quality limitations.

The technology and water quality requirements for the production of Class A reclaimed water, as cited in the Water Reclamation and Reuse Standards, 1997, are as follows:

> "Class A Reclaimed Water" is reclaimed water that, at a minimum, is at all times an oxidized, coagulated, filtered, disinfected wastewater.

1. Oxidized wastewater is defined as a wastewater in which the organic matter has been stabilized such that the biochemical oxygen demand (BOD_5) does not exceed 30 mg/l and the total suspended solids (TSS) do not exceed 30 mg/l, is nonputrescible, and contains dissolved oxygen.
2. Coagulated wastewater is defined as an oxidized wastewater in which colloidal and finely divided suspended matter have been destabilized and agglomerated prior to filtration by the addition of chemicals or by an equally effective method.
3. Filtered wastewater is defined as an oxidized, coagulated wastewater which has been passed through natural undisturbed soils or filter media, such as sand or anthracite, so that the turbidity as determined by an approved laboratory method does not exceed an average operating turbidity of 2 nephelometric turbidity units (NTU), determined monthly, and does not exceed 5 NTU at any time.
4. Adequate disinfection is defined as the median number of total coliform organisms in the wastewater after disinfection does not exceed 2.2 per 100 milliliters, as determined from the bacteriological results of the last seven (7) days for which analyses have been completed, and the number of total coliform organisms does not exceed 23 per 100 milliliters in any sample.

Proposed Effluent limitations

EFFLUENT LIMITATIONS – OUTFALL #1 - TRIBUTARY TO DEEP CREEK

Beginning on the issuance date of this permit and lasting through the expiration date the Permittee is authorized to discharge municipal wastewater at the permitted location subject to the following limitations:

Outfall # 1 : Tributary to Deep Creek

Outfall # 1 : Tributary to Deep Creek		
April 1st through November 30th		
Parameter	**Average Monthly**	**Average Weekly**
BOD_5 (b)	15 mg/L	23 mg/L
TSS (b)	15 mg/L	23 mg/L
Fecal Coliform Bacteria	50 CFU/100 mL	100 CFU/100 mL
Dissolved Oxygen	Daily minimum not less than 6.0 mg/L	
pH	Daily minimum is equal to or greater than 6.0 and the daily maximum is less than or equal to 7.75.	
Flow	Minimum daily discharge to not less than 0.1 MGD	
Total Nitrogen, as N	Seasonal average during discharge shall not exceed 10 mg/L	
Total Phosphorus, as P	Minimum monthly average 85% removal	
Parameter	**Average Monthly**	**Maximum Daily**
Ammonia Nitrogen (as NH_3-N)	1.0 mg/L	3.0 mg/L
December 1st through March 31st		
Parameter	**Average Monthly**	**Average Weekly**
Biochemical Oxygen Demand (5 day)	15.0 mg/L, 231 lbs/day	23.0 mg/L, 346 lbs/day
Total Suspended Solids	15.0 mg/L, 231 lbs/day	23.0 mg/L, 346 lbs/day
Fecal Coliform Bacteria	100 CFU/100 mL	200 CFU/100 mL
Ammonia Nitrogen (as NH_3-N)	2.0 mg/L	n/a
Dissolved Oxygen	Daily minimum not less than 6.0 mg/L	
pH	Daily minimum is equal to or greater than 6.0 and the daily maximum is less than or equal to 7.75.	
Total Nitrogen, as N	Seasonal average during discharge shall not exceed 10 mg/L	

EFFLUENT LIMITATIONS – USE AREA #1 - WEST MEDICAL LAKE

EFFLUENT LIMITATIONS – USE AREA #2 - CITY RECLAIMED WATER SYSTEM

Beginning on the effective date and lasting through the expiration date of this permit, the Permittee is authorized to distribute Class A reclaimed water to West Medical Lake and city reclaimed water system as listed in Condition S10.A. The discharge of reclaimed water for surface water recharge is subject to the following treatment, and water quality limitations:

Area #1 - West Medical Lake **Area #2 – City Reclaimed Water System**		
Reclaimed Water Limitations -- Secondary Effluent		
Parameter	**Average Monthly**	**Average Weekly**
BOD_5	10 mg/L	15 mg/L
TSS	10 mg/L	15 mg/L
Coagulated/ Filtered Wastewater – Prior to Disinfection		

Area #1 - West Medical Lake **Area #2 – City Reclaimed Water System**		
Turbidity	**Average Monthly** 2 NTU	**Sample Maximum** 5 NTU
Disinfected - Reclaimed Water		
Total Nitrogen as N	**Average Monthly** 10 mg/L	**Average Weekly** 15 mg/L
Total Phosphorus as P	0.5 mg/L	1.0 mg/L
Total Ammonia (as NH_3-N)	**Average Monthly** 1.0 mg/L	**Sample Maximum** 3.0 mg/L
Total Coliform	**7-day Median** 2.2 MPN/ 100 ml	**Sample Maximum** 23 MPN/100 ml
pH	Shall be between 6 and 7.75 standard units at all times	
Dissolved Oxygen	Daily minimum not less than 6.0 mg/L	

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, that water quality criteria are not violated, and that effluent limitations are being achieved (WAC 173-216-110).

INFLUENT AND EFFLUENT MONITORING

The monitoring and testing schedule is detailed in the proposed permit under Condition S1 and S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of water quality criteria, and cost of monitoring.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3. are based on the authority to specify any appropriate reporting and record keeping requirements to prevent and control waste discharges (WAC 273-216-110).

FACILITY LOADING

In accordance with WAC 173-220-150 (1)(g), flows or waste loadings shall not exceed approved design criteria.

The design criteria for this treatment facility are taken from the October 1977 Sewerage Facilities Plan prepared by Pacific Environmental Consultants as amended in June 1995 by EMCON Consultants and in January 1998 by Esvelt Environmental Engineering and are as follows:

Table 2: Design Standards for New WWTP.

Flows or waste loadings of the following design criteria for the permitted treatment facility shall not be exceeded:

Average Flow for Maximum Month:.....1.85 MGD
Maximum Day Flow:.....4.10 MGD
Instantaneous Peak Flow: .....6.20 MGD
BOD_5 Loading for Maximum Month: .....2350 lbs/day
TSS Loading for Maximum Month: .....2400 lbs/day
Maximum Month TKN:.....500 lbs/day
Maximum Month Phosphate:.....71 lbs/day

The permit requires the Permittee to maintain adequate capacity to treat the flows and waste loading to the treatment plant (WAC 173-216-110[4]). The Permittee is required to submit an engineering report when the plant reaches 85% of its flow or loading capacity. For significant new discharges, the permit requires a new application and an engineering report (WAC 173-216-110[5]). The permit requires the Permittee to submit annual reports comparing the actual flow and waste loadings to the design criteria for the plant.

OPERATIONS AND MAINTENANCE
The proposed permit contains condition S.5 and S.8 as authorized under RCW 90.48.110, WAC 173-220-150, Chapter 173-230 WAC, and WAC 173-240-080. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture, treatment and water reclamation.

RESIDUAL SOLIDS HANDLING
To prevent water pollution the Permittee is required in permit condition S7. to store and handle all residual solids (grit, screenings, scum, sludge, and other solid waste) in accordance with the requirements of RCW 90.48.080 and State Water Quality Standards.

The final use and disposal of biosolids from this facility is regulated by U.S. EPA under 40 CFR 503. The disposal of other solid waste is under the jurisdiction of the local health district. Requirements for monitoring biosolids and record keeping are included in this permit. This information will by used by Ecology to develop or update local limits and is also required under 40 CFR 503.

PRETREATMENT
WAC 173-216-110 requires that the list of prohibitions in WAC 173-216-060 be included in the permit.

Federal pretreatment requirements in 40 CFR 403 and Sections 307(b) and 308 of the Clean Water Act apply to this facility. Therefore notification to the Department is required when pretreatment prohibitions are violated and when new sources of commercial or industrial wastewater discharge are added to its system.

During the preparation of the engineering report a listing of major water users was furnished. The few industrial users are not major water users nor are they categorical industries or likely to discharge categorical pollutants. However, the engineering report did document that growth is likely in Ephrata and the potential for commercial and industrial development should be anticipated. The reclaimed water standards require that wastewater receive adequate and prescribed treatment **at all times**. The potential for upset due to toxicants or inhibitory substances in the wastewater influent must be acknowledged and avoided. Nor is it desirable to have undetected toxicants pass through the system. Therefore, preparation and submission of a local sewer ordinance regulating discharges into the collection is a requirement of the permit and the construction funding agreements.

GENERAL CONDITIONS
General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to ground water permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to submit written notice of significant increases in the amount or nature of discharges (typically new industrial discharges) into the sewer system tributary to the permitted facility. Condition G6 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G7 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Condition G8 requires application for permit renewal 60 days prior to the expiration of the permit. Condition G9 requires the payment of permit fees. Condition G10 describes the penalties for violating permit conditions.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, and to protect human health and the beneficial uses of waters of the State of Washington. The Department proposes that the permit be issued for five (5) years.

REFERENCES FOR TEXT AND APPENDICES

Faulkner, S.P., Patrick Jr., W.H., Gambrell, R.P., May-June, 1989. Field Techniques for Measuring Wetland Soil Parameters, Soil Science Society of America Journal, Vol. 53, No.3.

Washington State Department of Ecology, 1993. Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems, Ecology Publication # 93-36. 20 pp.

Washington State Department of Ecology and Department of Health, 1993. Water Reclamation and Reuse Interim Standards, Ecology Publication # 93-21. 23 pp.

Washington State Department of Ecology, 1996. Implementation Guidance for the Ground Water Quality Standards, Ecology Publication # 96-02.

Washington State University, November, 1981. Laboratory Procedures - Soil Testing Laboratory. 38 pp.

Washington State Department of Ecology Home Page
http://www.wa.gov/ecology/
Laws and Rules web site
http://www.wa.gov/ecology/leg/laws-etc.html

APPENDICES

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION
The Department has tentatively determined to reissue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

The Department will publish a Public Notice of Draft (PNOD) on March 14, 2005 in the Spokesman-Review to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator
Department of Ecology
Eastern Regional Office
4601 N Monroe Street
Spokane, WA 99205-1295

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (509)329-3400, or by writing to the address listed above.

This permit was written by Jerry Anderson, P.E..

APPENDIX B--GLOSSARY

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation--The average of the measured values obtained over a calendar month's time.

Beneficial Use – The use of reclaimed water, that has been transported from the point of production to the point of use without an intervening discharge to the waters of the state, for a beneficial purpose.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD_5--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD_5 is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of the collection or treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing

the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring –Uninterrupted, unless otherwise noted in the permit.

Distribution Uniformity--The uniformity of infiltration (or application in the case of sprinkle or trickle irrigation) throughout the field expressed as a percent relating to the average depth infiltrated in the lowest one-quarter of the area to the average depth of water infiltrated.

Engineering Report--A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in the Water Reclamation and Reuse Standards, WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Groundwater Recharge Criteria – The contaminant criteria found in the drinking water quality standards adopted by the state board of health pursuant to chapter 43.20 RCW and the department of health pursuant to chapter 70.119A RCW.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Reclaimed Water – Effluent derived in any part from sewage from a wastewater treatment system that has been adequately and reliably treated, so that as a result of that treatment, it is suitable for a beneficial use or a controlled use that would not otherwise occur and is no longer considered wastewater.

Sample Maximum -- No sample shall exceed this value.

Soil Scientist--An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy, crops or soils, and have 5,3,or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

Surface Percolation – The controlled application of water to the ground surface for the purpose of replenishing ground water.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria—Coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. A microbiological test is used to detect and enumerate the total coliform group of bacteria in water samples.

Total Dissolved Solids--That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent pollution of the receiving water.

APPENDIX C--RESPONSE TO COMMENTS

COMMENTS RECEIVED FROM THE DEPARTMENT OF HEALTH

City of Medical Lake Discharge Permit

A. Notice

1. 1st Paragraph: The notice should identify the permit as an NPDES *and water reclamation* permit.

RESPONSE: Comment noted and added to 1st paragraph of permit Notice.

2. 3rd Paragraph: The notice should read that the permit would allow discharge of treated wastewater from the treatment plant to *an intermittent tributary to Deep Creek and beneficial reuse of reclaimed in West Medical Lake or the City reclaimed water system.*

RESPONSE: Comment noted and added to 1st paragraph of permit Notice.

B. Permit

1. Cover Sheet: the name of the permit should be revised per A.1 above

RESPONSE: Comment noted and added to permit cover sheet.

2. Cover Sheet: the "receiving water" should list only Intermittent Tributary to Deep Creek; and then Use Areas 1&2 as West Medical Lake and City Reclaimed Water System [West Medical Lake *is* a receiving water, but the permit needs to differentiate from reuse of reclaimed water in West Medical Lake and disposal discharge to Deep Creek]

RESPONSE: Comment noted and Reclaimed Water outfall #2 and #3 is changed to Use Area #1 and #2.

3. S10.F & S10.G: the term "as needed" should be described somewhere to assure that these documents are reviewed and updated to reflect permitted uses and reclaimed water demands. This could be once per permit period, or could be monthly if there are significant changes to the reclamation demands and uses.

RESPONSE: Comment noted; see last sentence of S10.F (4). Health and Ecology approval is required prior to distribution.

4. S1.B: The term "pollutants" in the second sentence should be revised to something like "water quality parameters", "contaminant" or "constituent". Reclaimed water is no longer wastewater which means that *pollutants* should be removed during the production, although unwanted things – contaminants – are likely to be present, which are controlled by the permit.

RESPONSE: Comment noted and added to permit Special Condition S1.B.

5. S1.C: "Outfall" in the title should be changed to "Use Area".

RESPONSE: Comment noted and Reclaimed Water outfalls #2 and #3 was changed to Use Area #1 and #2.

6. S1.C: Why are total nitrogen & total phosphorous of concern to reuse within the city's reclamation system? For agronomic irrigation, these are constituents that will be beneficial. [This is the same water that will go to West Medical, which is sensitive to N & P, and it is recognized the same monitoring at the plant will be performed. This just not necessary for this specific use]

RESPONSE: Reclaimed water is not exempt from water quality standards; therefore, the discharge to West Medical Lake will have to meet additional discharge criteria for lakes. Since this lake does not have a surface inlet or outlet, nutrients can be a problem that causes dissolved oxygen problems. Since this lake is in the Spokane River drainage basin, any treatment facility discharging is required by the Department to remove 85 percent of total phosphorus.

7. S2.C: "Outfall" #3 should be Use Area #3.

RESPONSE: Comment noted and Outfall #2 and #3 are changed to Use Area #1 and #2.

8. S2.C: The first paragraph is unnecessary and should be removed.

RESPONSE: Since there are different use area designations for discharge of reclaimed water, the information provided in the paragraph requires monitoring for each designated use.

9. S4.B- 1st & 2nd Paragraphs: The plans for maintaining adequate capacity should be submitted and approved by both Health & Ecology since these plans will affect the production of reclaimed water.

RESPONSE: Comment noted and added to Condition S4.B.

10. S10.A: Use within the bounds of the treatment plant is specifically exempted from reclamation standards by the standards [Section 1- Article 5.2(b)] and thus should not be covered by this permit.

RESPONSE: Comment noted and Condition S10.A. changed to city reclaimed water system uses, such as landscape irrigation.

11. S10.F&G: Both the Service and Use Area Agreements and Reclaimed Water Ordinance need to be submitted to Health & Ecology for approval.

RESPONSE: Comment noted: see response to item 3, above.

12. G2: Health should be included in the requirement for right of entry.

RESPONSE: Comment noted and G2 changed to include department of Health in right to entry.

13. G5: Notification of any new or altered sources that will affect the quality of reclaimed water and public health risk must be made to Health also.

RESPONSE: Comment noted and G5 changed to include department of Health in Notification of new or altered sources.

14. G6: Plan review by Health for any modification of the facility is also required per #9 above.

RESPONSE: Comment noted and G6 changed to include department of Health in review and approval of engineering reports and P&S.

C. Fact Sheet

1. Summary – augmentation of ground water supply is not an approved or permitted use for this facility.

RESPONSE: Comment noted and referenced to ground water was changed to "West Medical Lake and for reuse in city reclaimed water system".

2. Introduction:
   a. The type of permit should include reference to water reclamation here also.

RESPONSE: Comment noted and "Reclaimed Water" added to type of permit

   b. Per comment B4 above, reclaimed water shouldn't carry "pollutants" since it is not wastewater but can have "contaminants" or "water quality parameters".

RESPONSE: Comment noted and reference to pollutant(s) monitoring in reclaimed water reuse is changed to water quality parameter.

   c. The Division of Drinking Water is now the Office of Drinking Water.

RESPONSE: Comment noted and change made in Fact Sheet text.

   d. Discharge Location in the table should include Use Area #3 – City of Medical Lake reclaimed water system to be consistent with the permit.

RESPONSE: Comment noted and change made in Fact Sheet General Information table.

3. Background Information:
   a. Distribution System - section should include Use Area [Outfall] #3 also, for consistency.

RESPONSE: Comment noted and "city reclaimed water system" added for consistency.

b. Wastewater Characterization – infiltration and land application are not uses that are specifically identified and allowed by the permit.

RESPONSE: Comment noted and references to infiltration and land application was changed to "West Medical Lake and city reclaimed water system".

4. Proposed Permit Limitations
   a. Reference to infiltration basins in the 2nd paragraph needs to be removed.

RESPONSE: Comment noted and references to infiltration and land application was changed to "West Medical Lake and city reclaimed water system".

b. Proposed effluent limitations table for Use Area #3 needs to be included.

RESPONSE: Comment noted and references "city reclaimed water system" was added.

5. Appendices: Why is this permit to be advertised in the Grant Journal?

RESPONSE: Comment noted and reference to application notice corrected.